

(19)



JAPANESE PATENT OFFICE

PATENT ABSTRACTS OF JAPAN

(11) Publication number: **08281089 A**

(43) Date of publication of application: **29 . 10 . 96**

(51) Int. Cl

**B01F 7/16**

(21) Application number: **07108235**

(22) Date of filing: **09 . 04 . 95**

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**(54) VERTICAL TYPE STIRRING MACHINE**

**(57) Abstract:**

**PURPOSE:** To obtain a vertical type stirring machine which prevents the generation of side circulating flow and produces strong stirring power at a low number of revolution by forming the flat planar paddle vanes near the bottom of a stirring tank to a large size and gradually upward decreasing the radius of rotation of grid vanes couples thereto.

**CONSTITUTION:** A revolving shaft 4 which partly projects to the upper part of the stirring tank 1 of a cylindrical shape and is rotationally driven from outside the tank is arranged in the central part of the stirring tank 1. The flat planar bottom paddles 5 having a slight spacing from the bottom wall surface of the stirring tank 1 are mounted at this revolving shaft 4. These paddles 5 are provided with the grid vanes consisting of longitudinal members 7 and transverse members 8 in upper their parts and further, plural baffle plates 3 extending vertically parallel with the revolving shaft 4 are mounted at the inner wall of the stirring tank 1. The grid vanes are so formed that the radius of rotation in the outer parts thereof is made continuously smaller upward. The generation of the side circulating flow is prevented even when the slender length ration H/D of the liquid depth H and the bore D of the tank attains  $\geq 1.5$  or the viscosity region attains  $\geq 2.0$  to 3.0Pa.s if the grid vanes are formed in

such a manner. The stirring machine which produces the strong stirring force at the low number of revolution and is capable of shortening the mixing time is thus obtd.

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